

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of common rate control in a reverse link channel in a CDMA network, comprising:
 - estimating a reverse link load;
 - transmitting a periodic load indication indicative of the reverse link load on a common control channel to one or more mobile stations;
 - determining a desired target mobile transmit power based on the estimated reverse link load; and
 - transmitting the target mobile transmit power to at least one mobile station.
2. (Currently amended) The method of claim 1 wherein transmitting the target mobile transmit power to at least one mobile station comprises transmitting the target mobile transmit power to the mobile station at connection setup.
3. (Currently amended) The method of claim 1 wherein transmitting the target mobile transmit power to at least one mobile station comprises transmitting the target mobile transmit power to the mobile station following a handoff.
4. (Currently amended) The method of claim 1 wherein transmitting the target mobile transmit power to at least one mobile station comprises transmitting the target mobile transmit power to a plurality of mobile stations over a common control channel.
5. (Currently amended) The method of claim 1 wherein determining a desired target mobile transmit power based on the estimated reverse link load comprises determining an estimated target mobile transmit power for all mobile stations transmitting on the reverse link channel such that the expected total received power at the base station from all mobile stations is at a desired total received power level.

6. (Currently amended) The method of claim 1 wherein determining a desired target mobile transmit power comprises incrementally adjusting the target mobile transmit power based on the periodic load indications.
7. (Original) The method of claim 1 wherein a load indication is transmitted periodically to the mobile stations at a predetermined rate change interval.
8. (Currently amended) The method of claim 7 wherein the target mobile transmit power is updated periodically.
9. (Currently amended) The method of claim 8 wherein the target mobile transmit power is updated at least once in each rate change interval.
10. (Currently amended) A base station comprising:
 - receive circuits to receive signals on a reverse link channel from a plurality of mobile stations;
 - transmit circuits to transmit periodic load indications indicative of a reverse link load on the reverse link channel and a desired target mobile transmit power on a forward link channel to mobile stations transmitting on the reverse link channel to control the transmission rate of the mobile stations on the reverse link channel; and
 - control circuits operative to:
 - estimate the reverse link load; and
 - determine the desired target mobile transmit power based on the estimated reverse link load.
11. (Currently amended) The base station of claim 10 wherein the target mobile transmit power is transmitted to mobile stations at connection setup.
12. (Currently amended) The base station of claim 10 wherein the target mobile transmit power is transmitted to mobile stations following a handoff.

13. (Currently amended) The base station of claim 10 wherein the target mobile transmit power is transmitted to mobile stations periodically.
14. (Currently amended) The base station of claim 10 wherein the control circuits determine the desired target mobile transmit power based on the estimated reverse link load such that the expected total received power at the base station from all mobile stations is at a desired total received power level.
15. (Currently amended) The base station of claim 10 wherein the control circuits determine the desired target mobile transmit power by incrementally adjusting the target mobile transmit power based on the periodic load indications.
16. (Original) The base station of claim 10 wherein the load indication is transmitted periodically to the mobile stations at a predetermined rate change interval.
17. (Currently amended) The base station of claim 16 wherein the control circuit periodically updates the target mobile transmit power
18. (Currently amended) The base station of claim 17 wherein the control circuit updates the target mobile transmit power at least once in each rate change interval.
19. (Original) A method of dynamically adjusting a data transmission rate of a mobile station, comprising:
 - determining a rate change probability as a function of a current transmit power of mobile station; and
 - selectively changing the data transmission rate of the mobile station based on the rate change probability.
20. (Currently amended) The method of claim 19 wherein determining a rate change probability as a function of a current transmit power of mobile station comprises:
 - storing a target mobile transmit power in the mobile station; and

computing a rate change probability as a function of the current transmit power of the mobile station and the target mobile transmit power.

21. (Currently amended) The method of claim 19 further comprising:
receiving periodic load indications from a base station; and
updating the target mobile transmit power based on the periodic load indications from the base station.
22. (Currently amended) The method of claim 20 wherein computing a rate change probability as a function of the current transmit power of the mobile station and the target mobile transmit power comprises:
computing a first power differential between the current transmit power and the target mobile transmit power;
computing a second power differential between the current transmit power and a maximum or minimum transmit power; and
determining a power differential ratio of the first and second power differentials; and
determining the rate change probability as a function of the power differential ratio.
23. (Original) The method of claim 22 wherein the rate change probability is equal to the power differential ratio.
24. (Original) The method of claim 22 wherein the rate change probability is the maximum of 1 and the power differential ratio.
25. (Currently amended) The method of claim 20 further comprising receiving the target mobile transmit power from the base station.
26. (Currently amended) The method of claim 20 wherein the target mobile transmit power is received by the mobile station during connection setup.
27. (Currently amended) The method of claim 20 wherein the target mobile transmit power is received by the mobile station following a handoff.

28. (Currently amended) The method of claim 20 wherein the target mobile transmit power is received by the mobile station over a common control channel.

29. (Original) The method of claim 19 wherein determining a rate change probability as a function of a current transmit power of mobile station comprises:

computing a load tracking value representative of the reverse link load at the mobile station;

computing a first rate change probability if the load tracking value is within a defined range that is dependent on the current transmit power of the mobile station; and

computing a second rate change probability if the load tracking value is outside the defined range.

30. (Original) The method of claim 29 wherein the first rate change probability is set to 0 when the load tracking value is within the defined range.

31. (Original) The method of claim 29 wherein the second rate change probability varies depending on the distance of the load tracking value from a reference value.

32. (Original) The method of claim 31 wherein the rate change probability varies linearly with distance of the load tracking value from the reference value.

33. (Original) The method of claim 31 wherein the rate change probability varies non-linearly with distance of the load tracking value from the reference value.

34. (Original) A mobile station comprising:

a receiver for receiving periodic load indications from a base station;

a transmitter for transmitting signals to the base station at a variable data transmission rate;

a controller to vary the data transmission rate of the mobile station, said controller operative to:

determine a rate change probability as a function of a current transmit power of the mobile station; and
selectively change the data transmission rate of the mobile station based on the rate change probability.

35. (Currently amended) The mobile station of claim 34 wherein the controller computes the rate change probability as a function the current transmit power of the mobile station and a target mobile transmit power.

36. (Currently amended) The mobile station of claim 35 wherein the controller further updates the target mobile transmit power based on periodic load indications from the base station.

37. (Currently amended) The mobile station of claim 35 wherein controller computes the rate change probability by:

computing a first power differential between the current transmit power and the target mobile transmit power;

computing a second power differential between the current transmit power and a maximum or minimum transmit power; and

determining a power differential ratio of the first and second power differentials; and

determining the rate change probability as a function of the power differential ratio.

38. (Original) The mobile station of claim 37 wherein the rate change probability is equal to the power differential ratio.

39. (Original) The mobile station of claim 37 wherein the rate change probability is the maximum of 1 and the power differential ratio.

40. (Currently amended) The mobile station of claim 35 further wherein the mobile station receives the target mobile transmit power from the base station.

41. (Currently amended) The mobile station of claim 35 wherein the mobile station receives the target mobile transmit power during connection setup.
42. (Currently amended) The mobile station of claim 35 wherein the mobile station receives the target mobile transmit power following a handoff.
43. (Currently amended) The mobile station of claim 35 wherein the mobile station receives the target mobile transmit power over a common control channel.
44. (Original) The mobile station of claim 34 wherein the controller determines the rate change probability by:
- computing a load tracking value representative of the reverse link load at the mobile station;
 - computing a first rate change probability if the load tracking value is within a defined range that is dependent on the current transmit power of the mobile station; and
 - computing a second rate change probability if the load tracking value is outside the defined range.
45. (Original) The mobile station of claim 44 wherein the controller sets the first rate change probability to 0 when the load tracking value is within the defined range.
46. (Original) The mobile station of claim 44 wherein the controller computes the second rate change probability as a function of the distance of the load tracking value from a reference value.
47. (Original) The mobile station of claim 46 wherein the rate change probability varies linearly with distance of the load tracking value from the reference value.
48. (Original) The mobile station of claim 46 wherein the rate change probability varies non-linearly with distance of the load tracking value from the reference value.